



**BOSE McKINNEY & EVANS LLP**

**CUSTOMER NUMBER 25267**

2700 First Indiana Plaza  
135 North Pennsylvania Street  
Indianapolis, Indiana 46204  
(317) 684-5000

**PATENT APPLICATION**

*IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

Applicant:	David D. Nolte et al.	}	Group:	1743
		}		
Invention:	ADAPTIVE	}	Examiner:	Unassigned
	INTERFEROMETRIC MULTI-	}		
	ANALYTE HIGH-SPEED BIOSENSOR	}	Atty. Docket:	12258-21
		}		
Serial No.:	10/726,772	}		
		}		
Filed:	December 3, 2003	}		

**CERTIFICATE OF MAILING TO COMMISSION OF PATENTS AND TRADEMARKS**

Date of Mailing: March 13, 2006


I certify that documents listed below

- Supplemental Information Disclosure Statement (2 pages) (in duplicate)
- Supplemental Information Disclosure Statement form 1449/PTO (1 page)
- Copies of cited art ( 498 pages)
- Certificate of Mailing
- Return Receipt postcard ( 1 page)

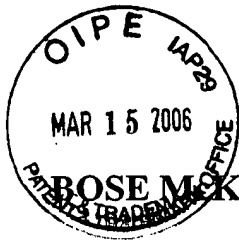
are being deposited with the United States Postal Service "First Class Mail" service under 37 CFR §1.8(a) on the date indicated above in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450

Respectfully submitted,

**BOSE McKINNEY & EVANS LLP**

  
Attorney of Record: Jason A. Houdek  
Reg. No. 54,620

Indianapolis, Indiana  
(317) 684-5000



**ROSE MCKINNEY & EVANS LLP**

**CUSTOMER NUMBER 25267**

2700 First Indiana Plaza  
135 North Pennsylvania Street  
Indianapolis, Indiana 46204  
(317) 684-5000

**PATENT APPLICATION**

*IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

Applicant:	David D. Nolte et al.	}	Group:	1743
		}		
Invention:	ADAPTIVE	}	Examiner:	Unassigned
	INTERFEROMETRIC MULTI-	}		
	ANALYTE HIGH-SPEED BIOSENSOR	}	Atty. Docket:	12258-21
		}		
Serial No.:	10/726,772	}		
		}		
Filed:	December 3, 2003	}		

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This statement is filed in the application identified above pursuant to 37 CFR §§ 1.56, 1.97 and 1.98. Applicants call attention to the art references within the knowledge of applicant and its attorney which are listed on the attached PTO Forms SB08A and SB08B. Consideration of these art references is respectfully requested. No representation is intended that a complete search has been made or that no better art references are available. The filing of this statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to the patentability as defined in 1.56(b).

**REMARKS**

Applicant would like to bring the following U.S. applications to the attention of the Examiner: "Array Methods For Interferometric Detection of Presence or Absence of a Target Analyte of a Biological Sample on a Planar Array", U.S. application Serial No. 11/331,503, filed January 13, 2006, "Multiplexed Biological Analyzer Planar Array Apparatus and Methods" U.S. application Serial No. 11/345,477, filed February 1, 2006, "Differentially

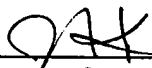
Encoded Biological Analyzer Planar Array Apparatus And Methods" U.S. application Serial No. 11/345,566, filed February 1, 2006, "Laser Scanning Interferometric Surface Metrology" U.S. application Serial No. 11/345,564, filed on February 1, 2006, "Method and Apparatus for Phase Contrast Quadrature Interferometric Detection of an Immunoassay" U.S. application Serial No. 11/345,462, filed on February 1, 2006 and Laser Scanning Interferometric Surface Metrology, filed February 1, 2006, U.S. application Serial No. 11/345,564. This application is also related to U.S. Patent No. 6,685,885. Applicant is filing identical SB08A and SB08B forms in these pending cases.

None of the art cited on the attached PTO Forms SB08A and SB08B is believed to disclose or suggest the invention recited in the claims of the above-identified application. It is therefore believed that the claimed invention is patentably distinguishable over these references.

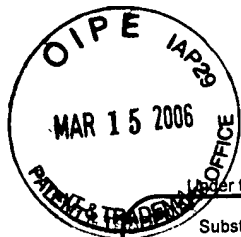
It is believed that no fees are due. Please charge any fees that might be due in connection with this Information Disclosure Statement to Bose McKinney & Evans LLP's Deposit Account No. 02-3223. An extra copy of this Information Disclosure Statement is enclosed for that purpose.

Respectfully submitted,

BOSE McKINNEY & EVANS LLP

  
\_\_\_\_\_  
Attorney of Record: Jason A. Houdek  
Reg. No. 54,620

Indianapolis, Indiana  
(317) 684-5000



PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Supplemental

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/726,772
Filing Date	December 3, 2003
First Named Inventor	David D. Nolte et al.
Art Unit	1743
Examiner Name	TBA
Attorney Docket Number	12258-21

Sheet 1 of 10

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US- 4,537,861	08-27-1985	Elings et al.	
	AB	US- 4,876,208	10-24-1989	Gustafson et al.	
	AC	US- 4,975,237	12-04-1990	Brown	
	AD	US- 5,155,549	10-13-1992	Dhadwal	
	AE	US- 5,413,939	05-09-1995	Gustafson et al.	
	AF	US- 5,478,527	12-26-1995	Gustafson et al.	
	AG	US- 5,545,531	08-13-1996	Rava et al.	
	AH	US- 5,653,939	08-05-1997	Hollis et al.	
	AI	US- 5,781,649	07-14-1998	Brezoczky	
	AJ	US- 5,844,871	12-01-1998	Maezawa	
	AK	US- 5,875,029	02-23-1999	Jann et al.	
	AL	US- 5,892,577	04-06-1999	Gordon	
	AM	US- 5,900,935	05-04-1999	Klein et al.	
	AN	US- 5,922,617	07-13-1999	Wang et al.	
	AO	US- 5,968,728	10-19-1999	Pertunen et al.	
	AP	US- 6,030,581	02-29-2000	Virtanen	
	AQ	US- 6,048,692	04-11-2000	Maracas et al.	
	AR	US- 6,099,803	08-08-2000	Ackley	
	AS	US- 6,110,748	08-29-2000	Reber et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	BB	EP 1189062 A1	20-03-2002	LaClair, James		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Supplemental

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

2

of

10

**Complete if Known**

Application Number	10726,772
Filing Date	December 3, 2003
First Named Inventor	David D. Nolte et al.
Art Unit	1743
Examiner Name	TBA
Attorney Docket Number	12258-21

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AT	US- 6,221,579	04-24-2001	Everhart et al.	
	AU	US- 6,312,961	11-06-2001	Voirin et al.	
	AV	US- 2002/0001546	01-03-2002	Hunter et al.	
	AW	US- 6,342,395	01-29-2002	Hammock et al.	
	AX	US- 6,342,349	01-29-2002	Virtanen	
	AY	US- 6,387,331	05-14-2002	Hunter	
	AZ	US- 6,395,558	05-28-2002	Duveneck et al.	
	AAA	US- 6,469,787	10-22-2002	Meyer et al.	
	AAB	US- 6,496,309	12-17-2002	Bliton et al.	
	AAC	US- 6,540,618	01-07-2003	Morath et al.	
	AAD	US- 2003/0054376	03-20-2003	Mullis et al.	
	AAE	US- 6,624,896	09-23-2003	Neal et al.	
	AAF	US- 6,685,885	02-03-2004	Nolte et al.	
	AAG	US- 6,687,008	02-03-2004	Peale et al.	
	AAH	US- 2004-0166593	08-26-2004	Nolte et al.	
	AAI	US- 2004-0229254	11-18-2004	Clair	
	AAJ	US- 6,836,338	12-28-2004	Opsal et al.	
	AAK	US- 6,847,452	01-25-2005	Hill	
	AAL	US- 6,917,421	07-12-2005	Wihl et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO Supplemental <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
Sheet <u>3</u> of <u>10</u>		Application Number 10/726,772	Filing Date December 3, 2003
		First Named Inventor David D. Nolte et al.	Art Unit TBA
		Examiner Name TBA	Attorney Docket Number 12258-21

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AAM	US- 6,917,432	07-12-2005	Hill et al.	
	AAN	US- 6,987,569	01-17-2006	Hill	
	AAO	US- 5,122,284	06-16-1992	Braynin et al.	
	AAO	US- 6,256,088	07-03-2001	Gordon	
	AAP	US- 6,339,473	01-15-2002	Gordon	
	AAQ	US- 6,476,907	11-05-2002	Gordon	
	AAR	US- 6,327,031	12-04-2001	Gordon	
	AAS	US- 2002/0135754	09-26-2002	Gordon	
	AAT	US- 2002/0085202	07-04-2002	Gordon	
	AAU	US- 5,955,377	09-21-1999	Maul et al.	
	AAV	US- 6,008,892	12-28-1999	Kain et al.	
	AAW	US- 6,060,237	05-09-2000	Nygren et al.	
	AAX	US- 6,177,990	01-23-2001	Kain et al.	
	AAY	US- 6,287,783	09-11-2001	Maynard et al.	
	AAZ	US- 6,355,429	03-12-2002	Nygren et al.	
	AAAA	US- 6,483,585	11-19-2002	Yang	
	AAAB	US- 6,770,447	08-03-2004	Maynard et al.	
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Supplemental		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				Application Number	10/726,772
				Filing Date	December 3, 2003
				First Named Inventor	David D. Nolte et al.
				Art Unit	1743
				Examiner Name	TBA
Sheet	4	of	10	Attorney Docket Number	12258-21

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
	CA	XIA, Y, et al. Non Photolithographic Methods and Fabrication of Elastomeric Stamps for Use in Microcontact Printing, Langmuir, 1996, Vo. 12, pp 4033-4038.		
	CB	HU, J., et al. Using Soft Lithography to Fabricate GaAs/AlGaAs Hetroestructue Field Effect Transistors, Appl. Phys.Lett.,1997 Vol 71, pp. 2020-2002.		
	CC	GRZYBOWSKI, B.A., et al. Generation of Micrometer-Sized Patterns For Microanalytical Applications Using a Laser Direct-Write Method and Microcontact Printing, Anal. Chem., 1998, Vol. 70, p., 4645-4652.		
	CD	MARTIN, B.D., et al., Direct Protein Microarray Fabrication Using a Hydrogel Stamper, Langmuir, 1998, Vol. 14, pp, 3971-3975.		
	CE	POMPE, T., et al., Submicron Contact Printing On Silicon Using Stamp Pads, Langmuir, 1999, Vol. 15, pp. 2398-2401.		
	CF	BIETSCH, A. and B. MICHEL, Conformal Contact And Pattern Stability of Stamps Used For Soft Lithography, J. Appl. Phys., 2000, Vol 88, pp. 4310-4318.		
	CG	GEISLER, M., et al., Microcontact Printing Chemical Patterns With Flat Stamps, J. Am. Chem. Soc., 2000, Vol. 122, pp. 6303-6304.		
	CH	SANDERS, G.H.W. and A. Manz, Chip-based Microsystems For Genomic And Proteomic Analysis. Trends in Anal, Chem., 2000, Vol. 19(6), pp. 3465-378.		
	CI	WANG, J., Survey and Summary From DNA Biosensors To Gene Chips, Nucl. Acids Res., 2000 Vol. 28(16), pp. 3011-3016.		
	CJ	HAGMAN, M., Dosing Immunology On A Chip, Science, 2000, Vol. 290, pp. 82-83.		

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO Supplemental <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/726,772
		Filing Date	December 3, 2003
		First Named Inventor	David D. Nolte et al.
		Art Unit	1743
		Examiner Name	TBA
Sheet 5	of 10	Attorney Docket Number 12258-21	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CK	MARX, J., DNA Arrays Reveal Cancer In Its Many Forms, Science, 2000, Vol. 289, pp. 1670-1672.	
	CL	EFFENHAUSER, C.S., et al. Integrated Capillary Electrophoresis On Flexible Silicone Microdevices: Analysis of DNA Restriction Fragments And Detection Of Single DNA Molecules On Microchips. Anal. Chem., 1997, Vol 69, pp. 3451-3457.	
	CM	HE, B. and F.E.. REGNIER, Fabrication of Nanocolumns for Liquid Chromatography, Anal. Chem., 1998, Vol. 70, p. 3790-3797.	
	CN	KRICKA, L.J., Miniaturization of Analytical Systems. Clin. Chem., 1998, Vol 44(9), pp. 2008-2014.	
	CO	REGNIER, F.E., et al. Chromatography and Electrophoresis On Chips: Critical Elements Offuture Integrated, Microfluidic Analytical Systems For Life Science. Tibtdch, 1999, Vol. 17, pp. 101-106	
	CP	EKINS, R.,F. CHU, and E. BIGGART, Development of Microspot Multi-Analyte Ratiometric Immunoassay Using Dual Fluorescent-Labelled Antibodies. Anal. Chim. Acta, 1989, Vol. 227, pp. 73-96.	
	CQ	GAO, H., et al., Immunosensing With Photo-Immobilized Immunoreagents On Planar Optical Wave Guides. Biosensors and Bioelectronics, 1995, Vol. 10, pp. 317-328.	
	CR	MAISENHOLDER, B., et al. A GaAs/AlGaAs-based Refractometer Platform For Integrated Optical Sensing Applications. Sensors and Actuators B, 1997, Vol. 38-39, pp. 324-329	
	CS	KUNZ, R.E., Miniature Integrated Optical Modules For Chemical and Biochemical Sensing. Sensors and Actuators B, 1997, Vol 38-39, pp. 13-28.	
	CT	DuBENDORFER, J. and R.E. Kunz, Reference Pads For Miniaure Integrated Optical Sensors. Sensors and Actuatores B, 1997 Vol. 38-39, pp. 1-7.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Supplemental		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				Application Number	10/726,772
				Filing Date	December 3, 2003
				First Named Inventor	David D. Nolte et al.
				Art Unit	1743
				Examiner Name	TBA
Sheet	6	of	10	Attorney Docket Number	12258-21

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CU	HECHT, E., Optics, 1987: Addison-Wesely publishing Co., Inc.	
	CV	SCRUBY, C.B. and L.E. Drain, Laser Ultrasonics: Techniques and Applications. 1990, Bristol: Adam Hilger.	
	CW	NOLTE, D.D. , et al., Adaptive Beam Combining and Interferometry Using Photorefractive Quantum Wells, J. Opt. Soc. Am. B, Vol. 19, No. 2, Feb. 2001, pp. 195-205.	
	CX	St. John et al., "Diffraction-Based Cell Detection Using a Microcontact Printed Antibody Grating", Analytical Chemistry, 1998, vol. 70, no. 6, pp. 1108-1111.	
	CY	MORHARD, F., et al., Immobilization Of Antibodies In Micropatterns For Cell Detection By Optical Diffraction. Sensors and Actuators B, 2000, Vol. 70, pp. 232-242.	
	CZ	I. ROSSOMAKHIN and. STEPANOV, Linear Adaptive Interferometers Via Diffusion Recording In Cubic Photorefractive Crystals, Opt. Commun. 86, 199-204 (1991).	
	CCA	ING R.K and Monchalin, L.P. , Broadband Optical Detection of Ultrasound By Two-Wave Mixing In A Photorefractive Crystal, Appl. Phys. Lett. 59, 3233-5 (1991).	
	CCB	Delaye, P. et al., Detection of Ultraonic Motion of a Scattering Surface by Two-Wave Mixing In a Photorefractive GaAs Crystal, Appl. Phys. Litt. 65, 932-4 (1994).	
	CCC	POUET, B.F. ING, R.K., KRISHNASWANRY, S, and ROYER, D, Heterodyne Interferometer With Two-Wave Mixing In Photorefractive Crystals For Ultrasound Detection On Rough Surface, Appl. Phys. Lett. 69, 3782 (1996).	
	CCD	MONTMORILLON, L.A. BIAGGIO, I DELAYE, P, LAUNAY, J.-C., and ROOSEN, A, Eye Safe Large Field of View Homodyne Detection Using a Photorefractive CdTe: V Crystal, Opt. Commun. 29, 293 (1996).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Supplemental		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				Application Number	10/726,772
				Filing Date	December 3, 2003
				First Named Inventor	David D. Nolte et al.
				Art Unit	1743
				Examiner Name	TBA
Sheet	7	of	10	Attorney Docket Number	12258-21

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
	CCE	P. DELAYE, A. BLOUIN, D. DROLET, L.-A. MONTMORRILLONG, ROOSEN, and J.-P. MONCHALIN, Detection of Ultrasonic Motion of a Scattering Surface by Photorefractive InP:Fe Under An Applied dc Field, J. Opt. Soc. Am. B14, 1723-34 (1997).		
	CCF	I. LAHIRI, L.J. PYRAK-NOLTE, D.D. NOLTE, M.R. MELLOCH, R.A. KRUGER, G.D. BACKER, and M. B. KLEIN, Laser-Based Ultrasound Detection Using Photorefractive Quantum Wells, Appl. Phys. Lett. 73, 1041-43 (1998).		
	CCG	S. BALASSUBRAMANIAN, L. LAHIRI, Y. DING, M.R. MELLOCH, and D.D. NOLTE, Two-Wave Mixing Dynamics And Nonlinear Hot-Electron Transport In Transverse-Geometry Photorefractive Quantum Wells Studies By Moving Gratings, Appl. Phys. B. 68, 863-9 (1990).		
	CCH	E. DELMARCHE, A. Bernard, II. Schmid, B. Michel, and H. BIEBUYCK, Patterened Delivery of Immunglobulines to Surface Using Microfluidic Networks, Science 276, 779-781(1997).		
	CCI	E. DELAMARCHE, A. BERNARD, H. SCHMID, A. BIETSCH, 13 Michel, and H. Biebuyck, Microfluidic Networks For Chemical Patterning of Substrates: Design and Application to Bioassays, Journal of the American Chemical Society 120, 500-508 (1998).		
	CCJ	KAPUR, RAVI et al. Streamlining the Drug Discovery Process by Integrating Miniaturization High Throughput Screening, High Content Screening, and Automation on the CellChip TM System. Biomedical Microdevices, Vol. 1, No. 2, 1999, pps 99-109		
	CCK	EKINS R. et al. Multianalyte Microspot Immunoassay. The Microanalytical Compact Disk Of The Future: Clin. Chem., 1991, Vo. 37(11), p. 1955-1967.		
	CCL	JENISON, R., YAN, S. HAEBERLI, A. POLISKY, B., 2001. Interference-Based Detection of Nucleic Acid Targets On Optically Coated Silicon. Nat. Biotechnol. 19, pp. 62-65.		
	CCM	FATTINGER, C., KOLLER, H., SCHLATTER, D., WEHRLI, P., 1993, The Difference Interferometer-A High Sensitive Optical Probel For Quantification Of Molecular-Surface Concentration; Biosens, Bioelectron 8, pp. 99-107.		
	CCN	Jenison, Robert et al. Silicon-based Biosensors for Rapid Detection of Protein or Nucleic Acid Targets, Clinical Chemistry, 47:10, 2001 pps. 1894-1990		

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO Supplemental <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	10/726,772
		Filing Date	December 3, 2003
		First Named Inventor	David D. Nolte et al.
		Art Unit	1743
		Examiner Name	TBA
		Attorney Docket Number	12258-21
Sheet	8	of	10

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CCO	VARMA., M.M., et al.; High Speed Label Free Detection By Spinning-Disk Micro-Interferometry; Biosensors & Bioelectronics, Vol. 19, pp. 1371-1376, 2004.	
	CCP	VARMA, M.M, et al.; Spinning-Disk Self-Referencing Interferometry of Antigen-Antibody Recognition; Optics Letters, Vol. 29, pp. 950-952, 2004.	
	CCQ	Morhard et al.; Immobilization of Antibodies in Micropatterns for Cell Detection by Optical Diffraction, Sensors and Actuators B., 2000, vol. 70, pp. 232-242.	
	CCR	NOLTE, D.D.; Semi-Insulating Semiconductor Heterostructures: Optoelectronic Properties And Applications, J.Appl.Phys. Vol 85, pp. 6269, 1999.	
	CCS	Brecht, A. and G. Gauglitz; Recent Developments in Optical Transducers for Chemical or Biochemical Applications. Sensors and Actuators B, 1997 Vol. 38-39, pp. 1-7.	
	CCT	VARMA, M.M. et al.; High-Speed Label-Free Multi-Analyte Detection Through Micro-Interferometry; Proc. of SPIE, Vol. 496, pp. 58-64, 2003.	
	CCU	EKINS, R., Ligand, Assays; From Electrophoresis to Miniaturized Microarrays, Clin. Chem, 1998, Vol. 44(9), pp. 2015-2030.	
	CCV	SOMEKH, MICHAEL et al.; Scanning Heterodyne Confocal Differential Phase And Intensity Microscope, Applied Optics, Vol. 34, No. 22, pp. 4857-4868; 1995.	
	CCW	SUDDENDORF, MANFRED, et al.; Single-Probe-Beam Differential Amplitude And Phase-Scanning Interferometer; Vol. 36, No. 25, pp. 6202-6210, 1997.	
	CCX	SEE, C.W. et al.; Scanning Differential Optical Profilometer For Simultaneous Measurement Of Amplitude and Phase Variation, Appl. Phys. Lett, Vol. 53, No. 1, pp. 10-12, 1988.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO Supplemental <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/726,772
		Filing Date	December 3, 2003
		First Named Inventor	David D. Nolte et al.
		Art Unit	1743
		Examiner Name	TBA
Sheet 9	of 10	Attorney Docket Number 12258-21	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CCY	ABE, TAKAO, et al.; Microroughness Measurements on Polished Silicon Wafers, Jpn. J. Appl. Phys., Vol 31, pp. 721-728, 1992.	
	CCZ	NOLTE, D.D. et al.; Spinning-Disk Interferometry The BioCD; Optics & Photonics News, pp.48-53, 2004.	
	CCC A	DING, Y., et al.; Femtosecond Pulse Shaping By Dynamic Holograms In Photorefractive Multiple Quantum Wells; Optical Society of America, pp. 718-720; 1997.	
	CCC B	DING, Y., et al., Adaptive All-Order Dispersion Compensation Of Ultrafast Laser Pulses Using Dynamic Spectral Holography; American Institute of Physics, pp. 3255-3257; 1999.	
	CCC C	JONES, R. et al.; Adaptive Femtosecond Optical Pulse Combining; American Institute of Physics, pp. 3692-3694; 2000.	
	CC CD	LAHIRI, I et al.; Photorefractive p-i-n Diode A Quantum Well Spatial Light Modulators; American Institute of Physics, pp. 1408-738; 1995.	
	CCC E	NOLTE, D.D., Self-Adaptive Optical Holography In Quantum Wells, pp. 1-6, 2005.	
	CCC F	LA CLAIR, J. et al.; Molecular Screening On A Compact Disc; The Royal Society of Chemistry; pp. 3244-3249; 2003.	
	CCC G	BURKART, et al. UCSD Scientists Develop Novel Way to Screen Molecules Using Conventional CDS on Compact Disk Players; UCSD newsletter; pp1-4, 2003.	
	CCC H	KWOLEK, K.M. et al.; Photorefractive Asymmetric Fabry-Perot Quantum Wells: Transverse-filed Geometry; Appl. Phys. Lett, Vol 67, pp. 736-738, 1995.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Substitute for form 1449/PTO</b> <b>Supplemental</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>			
		<b>Application Number</b>	10/726,772		
		<b>Filing Date</b>	December 3, 2003		
		<b>First Named Inventor</b>	David D. Nolte et al.		
		<b>Art Unit</b>	1743		
		<b>Examiner Name</b>	TBA		
<b>Sheet</b>	10	<b>of</b>	10	<b>Attorney Docket Number</b>	12258-21

<b>NON PATENT LITERATURE DOCUMENTS</b>			
<b>Examiner Initials*</b>	<b>Cite No.<sup>1</sup></b>	<b>Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.</b>	<b>T<sup>2</sup></b>
	CCC I	Nolte, D, et al., Photorefractive Quantum Wells, 2005.	
	CCC J	Peng, Leilei et al., Adaptive Optical biocompact Disk For Molecular Recognition, Applied Physics Letters 86, 2005,	
	CCC K	Gruska, B, et al., Fast and Reliable Thickness and Refractive Index Measurement of Antireflection Coatings On Solar-Silicon By Ellipsometry, Sentech Instruments GmbH, Carl0Scheele-Str. 16, 12489 Berlin Germany	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.